REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of November 3, 2006 (hereinafter Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. Nonetheless, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

In the Office Action, Claims 1, 2, 5, 8-21, and 23-29 were rejected under 35 U.S.C. 103(a) as being unpatentable in view of U.S. Patent No. 6,122,664 to Boukobza, *et al.* (hereinafter Boukobza). Claims 3, 4, and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Boukobza in view of U.S. Patent No. 6,419,577 to Okada (hereinafter Okada). Claims 6 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Boukobza in view of U.S. Patent Publication No. 2004/0139202 to Talwar *et al.* (hereinafter Talwar). Additionally, Claims 11-19 were rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

As of this Amendment, independent Claims 1, 11, 17, and 20 have been amended to more clearly differentiate the functioning of the ghost software agent in the present invention from the functioning of the autonomous agent disclosed in Boukobza. Dependent Claims 3-10, 12-16, 18-19, and 22-29 have also been amended to maintain consistency among the claims. Claims 11 and 15-19 have also been amended to claim statutory subject matter as required under 35 U.S.C. §101. No new subject matter has been added by this amendment.

Aspects of Applicants' Invention

Prior to discussing the prior art, it may be useful to reiterate certain aspects of Applicants' claimed invention, including the functioning of the ghost software agent as the host software operates in the various grids within the grid environment.

One embodiment of the invention, typified by amended Claim 1, is a method of collecting data regarding the operation of a grid computing environment. The method can identify in one grid of the grid computing environment a host software object, which can represent user objects, applications, and/or a processes operating in one or more grids within the grid computing environment. (See, e.g., Specification, para. [0034].) According to the method, the host software object can then be associated with a ghost software object configured to record the actions of the host software object. Ghost software objects can record one or more actions of host software objects by replicating actions of the host software objects and recording these replicated actions. A ghost software object, when created, may be configured to record actions of any host software object is it associated with as it travels through the grid environment. (See, e.g., Specification, para. [0029], Fig. 1). Moreover, as exemplified by Claim 20, an existing non-configured or blank ghost software object may be configured after being associated with an identified host software object. (See, e.g., Specification, para. [0055]).

Once a ghost software object is associated with a host software object, according to the present invention, the ghost software object also can follow the host software agent as it travels though the grid environment. As recited in the claims, as the host software object is moved from one grid to another, an associated ghost software object is also automatically moved from one grid to another, thereby allowing the ghost software agent to travel with the host software object through the grid environment and to potentially record all actions of the host software object. (See, e.g., Specification, para. [0029]).

The Claims Define Over the Prior Art

As previously stated, independent Claims 1, 11, 17, and 20 were rejected as being unpatentable over Boukobza. Boukobza discloses a process for monitoring a plurality of

object types of a plurality of nodes using a management node in an information system. Boukobza further discloses monitoring the various nodes by using the management node to install a single autonomous agent in a node to be monitored, where the autonomous agent can be configured to monitor software objects, conditions, parameters, and actions in the particular node in which the agent is installed. (See, e.g., Abstract, Col. 2, Lines 21-38) The management node can then retrieve data collected by the various autonomous agents to perform further analysis of the performance of each node. (See, e.g., Col. 6, Lines 30-34)

It is asserted in the Office Action that the associated ghost software agent of the present invention and the autonomous agent of Boukobza provide equivalent functionality. Applicants respectfully disagree.

First, Boukobza fails to teach a single autonomous agent being associated with each software object. Boukobza instead discloses a single autonomous agent being associated with a single node or grid, not a single software object within the node or grid. (See, e.g., Col. 2, lines 20-37.) The present invention associates a ghost software object with each host software object and without any relation to the node or grid.

Second, Boukobza fails to disclose recording actions of a software object as the software object traverses various girds or nodes. The autonomous agent of Boukobza can be configured to monitor a number of software objects executing in the node and collect node performance data, but only as long as those software objects are within the node or grid. (See, e.g., Col. 5, lines 63 – Col. 6, lines 14).

In contrast to Boukobza, the present invention provides an individual ghost software object that associates with a host software object and moves with the associated host software object so as to record the actions of the associated host as the host traverses the grid environment. Thus, potentially, a single ghost software object of the present

invention could record every action of an associated host software object, regardless of which node or grid the actions of the associated host software object occur in.

These differences between the automated agent in Boukobza and the ghost software object in the present invention are necessitated by the different purposes of each method. The autonomous agent of Boukobza is provided to allow decentralized control of individual nodes, allowing each node to separately respond to changes in system performance and resources without having to regularly rely on a central system or problems in network traffic. (See, e.g., Col. 1, lines 64 – Col. 2, Lines 4). As such, Applicants respectfully assert that the autonomous agents of Boukobza must be bound to the node to provide such monitoring. In contrast, the ghost software agents of the present invention provide measurement of system performance based on overall performance of a representative sample of host software objects as they traverse the various grids in the grid environment. (See, e.g., Specification, para. [0008], [0030].) As such, the ghost software agents must not be bound to a node, but rather to a host software object and must move with the host software object in order to properly and efficiently record the action of the host software object.

In the Office Action, on page 3, it is acknowledged that Boukobza does not explicitly disclose the step of moving an associated ghost software object from a first grid to a second grid in response to moving of the host software object from the first grid to the second grid. However, the Office Action asserts that providing such capability would have been obvious to one of ordinary skill in the art. Applicants respectfully disagree and further assert that modifying the method of Boukobza as suggested in the Office Action would be contrary to the teachings of Boukobza.

As previously stated, Boukobza is directed to monitoring and evaluating individual machine or node performance using one or more autonomous agents. As the Office Action correctly states, nowhere does Boukobza disclose moving the autonomous

agent from node to node. However, such a disclosure would not be expected or even possible in light of the teachings of Boukobza. As stated above, the purpose of Boukobza is to provide a system and method for eliminating the need to control and manage multiple nodes (or machines) from a central location. Each individual node in Boukobza, via the autonomous agent, controls its own operation and manages its resources with little or no intervention from the management node. Therefore, as previously stated, it is always necessary for the autonomous agent to be bound to a single node to allow the individual nodes to be managed properly. Allowing the autonomous agent to move from node to node, as claimed in the present invention or suggested in the Office Action, would not allow the agent to continuously monitor and provide adjustments for a single node, teaching away from the purpose of Boukobza.

Accordingly, Boukobza fails to teach or suggest every feature recited in independent Claims 1, 11, 17, and 20, as amended. Applicants respectfully submit, therefore, that amended independent Claims 1, 11, 17 and 20 each define over the prior art. Applicants further respectfully assert that whereas the remaining dependent claims each depend from one of independent Claims while reciting additional features, the remaining dependent claims likewise define over the prior art. Therefore, Applicants respectfully submit that dependent Claims 2-10, 12-16, 18-19, and 21-29 are patentable on their own merit over Boukobza and are in a form for allowance.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the

Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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